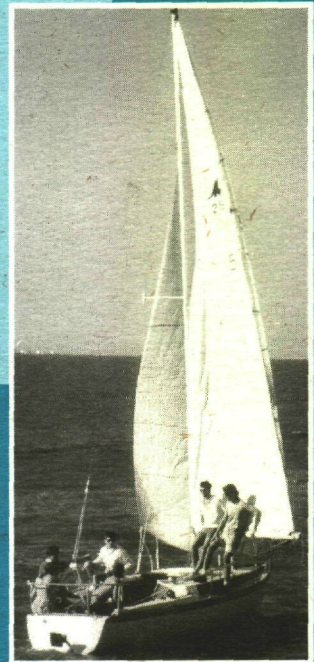
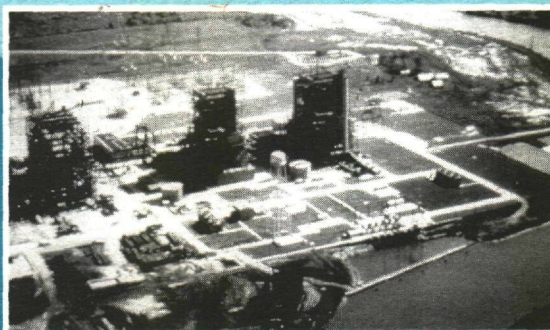
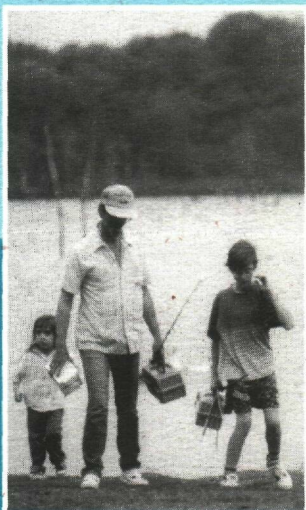
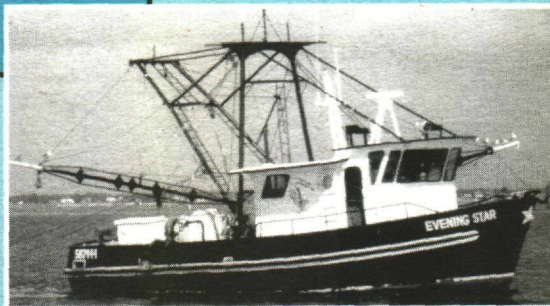
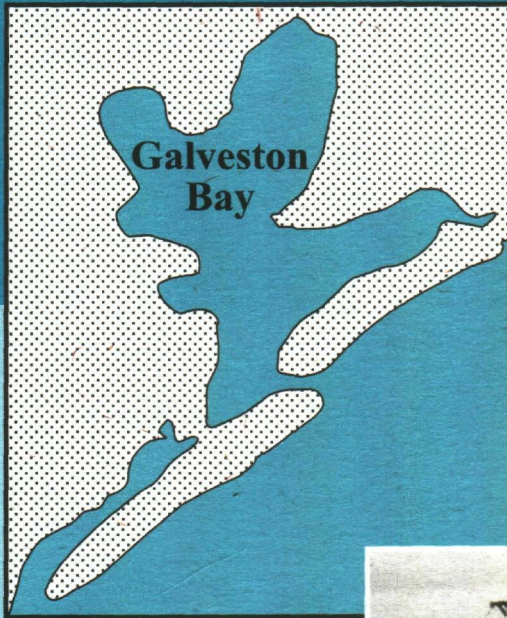


The Galveston Bay Plan



GALVESTON BAY NATIONAL ESTUARY PROGRAM

The Galveston Bay Plan

The Comprehensive Conservation and Management Plan

for the Galveston Bay Ecosystem



October 18, 1994

The Galveston Bay Plan

*The Comprehensive Conservation and Management Plan
for the Galveston Bay Ecosystem*

The Galveston Bay Plan

The Comprehensive Conservation and Management Plan
For the Galveston Bay Ecosystem

A Project of:
The Galveston Bay National Estuary Program



The Galveston Bay National Estuary Program
A Program of the TNRCC

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This document is a product of the Galveston Bay National Estuary Program Management Conference. The Galveston Bay Plan was approved by the Management Committee at their November 16, 1994 meeting and by the Policy Committee at their December 14, 1994 meeting. The Plan was approved by EPA Administrator, Carol Browner, in March, 1995. The team responsible for compiling The Galveston Bay Plan included:

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Endorsements

THE CONCEPT OF INITIALLY STUDYING from a scientific viewpoint the state of the bay, and using those findings to draft the current plan, lends a special credibility and weight to The Plan. The Galveston Bay Plan currently bears the imprints of both the careful science and the consensus building process from a number of involved and concerned Bay users... We think The Galveston Bay Plan, as currently drafted has the promise of creating a real difference in the environment of Galveston Bay. We strongly support its implementation.

—Mayor's Advisory Committee on the Environment (Houston), and the Texas Chemical Council

I am in support of The Plan as a mechanism to ensure that the ecological future of Galveston bay is protected. All those who contributed to The Plan did an excellent job in determining the vital environmental issues and balancing those issues with the fiscal realities that governments and business face today.

—Bob Lanier, Mayor of Houston

Philosophically The Galveston Bay Plan has the right approach by joining the issues of public welfare, economics and all aspects of the environment in considering the future of the bay. We fully support this approach... The Galveston Bay Plan's approach of combining issues represents a quantum improvement; we look forward to fruitful results of cooperation with local communities.

—Robert A. Cole, Director, Lazy Bend Association

The [Greater Houston] Partnership believes it is possible to sustain a healthy productive and useful bay while maintaining the sound economic development of the Galveston Bay area. We recognize the proposed Galveston Bay Plan to be the next step in the important ongoing process of maximizing Galveston Bay's value for all of its stakeholders. The key reasons for the support of The Galveston Bay Plan by the Greater Houston Partnership are:

- The cooperative nature of the work by the various interests in the Galveston Bay Area utilizing the National Estuary Program format/process*
- The sound scientific basis of the characterization of the bay from which The Plan was developed*
- The proposed creation of the Galveston Bay Council to provide the foundation for continuing communication and cooperation by all parties*
- The ability to review and adjust The Plan in the future through the advisory function of the Galveston Bay Council.*

—Greater Houston Partnership

On behalf of the Galveston District, Corps of Engineers, I am pleased to endorse this Draft Plan.

*—Major Ray Schultz, Deputy District Engineer,
Army Corps of Engineers*

Galveston Bay may be in better shape than some had presumed when GBNEP began; nevertheless, our collective concerns were not misplaced, as the studies do support an overall monitoring program to maintain a healthy and productive bay. If we are to sustain this bay as the environmental and economic resource we know it to be, we can only do so through a stewardship in which all parties appreciate the concerns of all of the bay interests. The time for that stewardship is now, before drastic measures are needed, while we can monitor and manage, rather than be forced to command and control... We... express our appreciation for the tremendous effort that has gone into the Draft CCMP. We fully expect the result of this public participation process to be a plan for the management of Galveston Bay whose implementation is a commitment shared by all stakeholders. To that end, the Port of Houston Authority pledges its cooperation and support.

—Port of Houston Authority

I believe that the GBNEP staff, Groundwater Services personnel, and all the public and industry representatives did a fine job of pulling together timely research, disparate points of view, and a wide variety of issues, initiatives, and jurisdictional conflicts to produce The Plan. The process of bringing together divergent perspectives and trying to forge a consensus on problems, solutions, and priorities was very useful. Furthermore, The Plan itself is a fine document—far more focused, concise, and easily implemented than most planning works.

—David A. Todd, Austin

Overall, [The Galveston Bay Plan] reflects one of the most polished and substantive plans I have had the pleasure to review.

**–Stephen Bugbee, EPA Permits
Washington, D.C.**

...Having over 23 years experience in coastal issues, policies, and resource management, I feel qualified to provide you with our support for the Draft Galveston Bay Plan... The Texas A&M Sea Grant College Program provides its endorsement and support for the Draft Galveston Bay Plan subject to any major, substantive revisions... Thanks to you and all of your staff for the hard work and excellent job given the numerous entities, organizations, officials, agencies, trade associations, and citizens that were involved in The Plan.

**–Mike Hightower, Sea Grant
Deputy Director**

On Behalf of the [Texas City] City Commission, we commend your committee and you [Senator Rodney Ellis] for the efforts exhibited on behalf of our beautiful Galveston Bay.

–Charles Doyle, Mayor of Texas City

The East Harris County Manufacturer's Association appreciates the opportunity to present further comments on what, in many ways, has become a model for future National Estuary Program plans. The Plan demonstrates that sound research, combined with consensus program development, yields quality results. The Plan is a tribute to those who worked so long and hard to get to this point. On the whole, the East Harris County Manufacturer's Association supports the draft Galveston Bay Plan.

**–C. L. Lancaster,
Chairman of the Board,
East Harris County Manufacturer's
Association**

The Galveston Bay Plan represents a thoughtful and insightful document that addresses significant issues of habitat destruction, water and sediment quality problems, and competing uses of the fragile Galveston Bay system, as well as proposes... a number of actions that should result in habitat protection.

–Texas Historical Commission

These plans as presented represent a major step forward in the comprehension and public presentation of this bay's increasing problems which are progressively eroding its sustainability and economic value.

–David Marrack, M.D.

[The Galveston Bay Plan] was well designed and thought-out and the clear and concise actions came together logically in the Action Plans... The level of detail in the draft is quite adequate, and has been sent to other Tier II and Tier III NEPs as a good example. These assets should help pave the way for a smooth implementation of The Plan. The draft reflects strong commitment, consensus-building, and leadership within the committees in attempting to address long-term problems in such a large, complex, and dynamic ecosystem as Galveston Bay. The commitment of the Management Conference in developing this strong draft CCMP is impressive and commendable.

**–EPA Office of Wetlands, Oceans, and
Watersheds
Washington, D.C.**

It is apparent from reviewing the proposed Plan that a great deal of time and effort has been put into developing a program that is balanced and allows for economic growth while protecting a valuable natural resource.

–Friendswood Development Company

As a long term participant in the Galveston Bay Program, we are pleased with the progress of the program toward the goal of sound and effective stewardship of the Galveston Bay system. The Plan reflects the dedication of the program staff and the virtues of combining careful research and consensus development.

–Houston Lighting and Power

Overall, I am impressed with the results of the GBNEP effort and the resulting Galveston Bay Plan Draft. You have discovered new facts, some contrary to popular conceptions, and developed a plan that will protect the Bay from future misuse.

–Hans R. Friedli, Citizen Monitor

The [Stormwater Management Joint Task Force] believes that protection of valuable natural resources such as Galveston Bay is critical to this region. In that regard we commend the GBNEP for their effort in protecting Galveston Bay. We encourage active involvement by local governments in the development of The Galveston Bay Plan.

**–Stormwater Management Joint Task
Force**

The Houston-Galveston Area Council supports the concept of a comprehensive Galveston Bay Plan to coordinate the management of this important resource... We commend the GBNEP Management Conference for its efforts to base its plan on sound scientific work, and for seeking consensus among the Bay's managers and users. We also appreciate the fact that local government input was invited and that our concerns have been addressed in major revisions to The Plan's implementation and financing strategies.

–H-GAC Board of Directors

The Board of Directors of the Gulf Coast Conservation Association has unanimously voted to support and approve the Galveston Bay National Estuary Program's Comprehensive Conservation and Management Plan. We would hope that all Texans realize the importance of the Galveston Bay system to our state's economy and ecology. We endorse the Management Plan as a viable tool for its restoration, maintenance, and protection. We would hope that this Plan receives the necessary support it so deserves.

–Gulf Coast Conservation Association

The League of Women Voters of Houston applauds the efforts of the Galveston Bay National Estuary Program Management Conference. We have been especially impressed with the attention given to obtaining input from the public at regular intervals... We feel that adoption of the [Galveston Bay Plan] by state and federal agencies, local governments, environmental and citizens' groups, commercial and industrial interests and recreational users is a step in the right direction.

–League of Women Voters of Houston

We recognize the significant potential to our economy in protecting the bay and the challenge of managing our water quality for our area's large population. We feel that much can be accomplished through a comprehensive, cooperative approach of local, regional, and state governments and organizations to improve storm water management, habitat protection and shoreline erosion. We must be ever mindful of realistic potential for funding and seek to prioritize recommendations to address our most serious problems.

–Sandra Pickett, Liberty City Councilwoman

I commend the Galveston Bay National Estuary Program staff for aggressively soliciting advice and comments from all interested parties during the development of The Plan. The Plan is a comprehensive document that appropriately addresses opportunities and problems in Galveston Bay and contiguous areas and recommends realistic approaches for management of the estuarine resources.

–Lial F. Tischler, Tischler/Kocurek

Mitchell Energy & Development Corporation commends the Galveston Bay National Estuary Program Management Conference ... for the quality of its review of Galveston Bay, a review that demonstrated the success of many existing control programs, such as point source controls in the Ship Channel area, in protecting the environmental quality of the Bay. Much of the design of the Comprehensive Plan has benefited from the quality of the review.

–Mitchell Energy and Development Corporation

The Galveston Bay Foundation enthusiastically supports the proposed Galveston Bay Plan. The Foundation supports the concept of sustainable development for the Galveston Bay area, and believes that it is possible to have a healthy productive bay and continued economic development in the surrounding area. The Foundation believes that the proposed Galveston Bay Plan is an important next step in the process of maximizing the potential of Galveston Bay for all of its users.

–Galveston Bay Foundation

The Houston Audubon Society wants to emphasize...the importance that it places on a Comprehensive Conservation and Management Plan for Galveston Bay. The wise stewardship of this estuary is long overdue, and of utmost importance economically, recreationally and environmentally. We appreciate the countless hours that dedicated and learned people have devoted to The Plan, and hope that their good ideas will be implemented fully.

–Houston Audubon Society

The Fish and Wildlife Service has been an active participant in the GBNEP since its inception. As such, we have been pleased both with the consensus-building format of the GBNEP and the results of that process. The Service strongly endorses the Draft Plan and we fully intend to be active participants in its implementation. The Plan will be most complementary to the recent Service thrust towards an ecosystem approach to fishery and wildlife conservation.

–U.S. Fish and Wildlife Service

The Galveston Bay National Estuary Program



Texans increasingly express their expectations for a clean environment in terms of entire ecosystems. Until recently, our tendency was to view environmental problems in isolated pieces we could understand. Indeed, this view was institutionalized in an elaborate mosaic of fragmented jurisdictions. The Galveston Bay National Estuary Program (GBNEP) is a forerunner in elevating hands-on management of coastal environments to the level of the ecosystem; and in doing so, is encouraging an integration of traditionally disparate institutions.

The GBNEP was established under the authority of the Water Quality Act of 1987 to develop a *Comprehensive Conservation and Management Plan* (CCMP) for Galveston Bay. *The Galveston Bay Plan* is that plan. The purpose of *The Galveston Bay Plan* is to address threats to the bay resulting from pollution, development, and overuse. To address these threats, five years of work commenced in 1990, consisting of three phases: (1) identification of the specific problems facing the bay; (2) a bay-wide effort to compile data and information to describe status, trends, and probable causes related to the identified problems; and (3) creation of *The Plan* itself to enhance governance of the bay at the ecosystem level. The GBNEP accomplished this work through a cooperative agreement between the U.S. EPA (Region 6) and the State of Texas (administered by the Texas Natural Resource Conservation Commission).

The structure of the GBNEP reflects a strong commitment to consensus-building among all Galveston Bay user groups, government agencies, and the public. The GBNEP "Management Conference" consists of six Governor-appointed committees with broad representation, totaling approximately one hundred individuals. Meetings of these committees are also open to the public, and public participation in policy-setting and in bay management are considered strengths of the program.

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List of Acronyms

The Galveston Bay Plan
Galveston Bay National Estuary Program

ASCS	Agriculture Stabilization and Conservation Service	EPA	U.S. Environmental Protection Agency
AVS	Acid Volatile Sulfides	ESA	Endangered Species Act
BEG	Bureau of Economic Geology	FC	Fecal Coliform
BMP	Best Management Practice	FDA	U.S. Food and Drug Administration
BR	Bureau of Reclamation	FEMA	Federal Emergency Management Agency
BUG	Beneficial Uses Group	FW	Freshwater Inflow and Bay Circulation Action Plan
CBC	Christmas Bird Count	GBC	Galveston Bay Council
C-CAP	Coast Watch-Change Analysis Program	GBF	Galveston Bay Foundation
CCC	Coastal Coordination Council	GBIC	Galveston Bay Information Center
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	GBP	Galveston Bay Program
CFU	Colony Forming Unit	GBNEP	Galveston Bay National Estuary Program
CMP	Texas Coastal Management Program	GCCA	Gulf Coast Conservation Association
COC	Contaminants of Concern	GCHDPCO	Galveston County Health District Pollution Control Division
Corps	U.S. Army Corps of Engineers	GCWDA	Gulf Coast Waste Disposal Authority
CPPRS	Citizen's Pollution Reporting and Response System	GIS	Geographic Information System
CPUE	Catch Per Unit Effort	GIWW	Gulf Intracoastal Waterway
CRP	Clean Rivers Program	GLO	Texas General Land Office
CWA	Clean Water Act	GOMP	Gulf of Mexico Program
CZARA	Coastal Zone Act Reauthorization Amendments	HCPCD	Harris County Pollution Control District
CZM	Coastal Zone Management	HEP	Habitat Evaluation Procedure
DBMS	Database Management System	HGAC	Houston-Galveston Area Council
DIMS	Data and Information Management Strategy	HGCSD	Houston-Galveston Coastal Subsidence District
DIR	Department of Information Resources	HHSD	Houston Health and Human Services Department
DO	Dissolved Oxygen	HL&P	Houston Lighting and Power
DoD	U.S. Department of Defense	HP	Habitat Protection Action Plan
DOI	Department of Interior	HSC	Houston Ship Channel
DPU	Houston Department of Public Utilities	HUD	U.S. Department of Housing and Urban Development
EHCMA	East Harris County Manufacturer's Association	ICC	Interagency Coordinating Committee
EMAP	Environmental Monitoring and Assessment Program	ISTEA	Intermodal Surface Transportation Efficiency Act
EMC	Event Mean Concentration	LANS	Local Area Networks

continued

MARPOL	Marine Plastics Pollution Research and Control Act	SCS	Soil Conservation Service (Now the Natural Resources Conservation Service)
MOU	Memorandum of Understanding	SD	Spills/Dumping Action Plan
MUD	Municipal Utility District	SM	Shoreline Management Action Plan
NBS	National Biological Survey	SP	Species Population Protection Action Plan
NCP	National Oil and Hazardous Substances Contingency Plan	SPCC	Spill Prevention Control and Countermeasures Plan
NMFS	National Marine Fisheries Service	SWCB	Texas State Soil and Water Conservation Board
NOAA	National Oceanic and Atmospheric Administration	TAC	Texas Administrative Code
NPDES	National Pollutant Discharge Elimination System	TAMU	Texas A&M University
NPS	Non-Point Source	TBT	Tributyl Tin
NRDA	Natural Resource Damage Assessment	TCC	Texas Chemical Council
NRHP	National Register of Historic Places	TCOON	Texas Coastal Ocean Observation Network
NRI	National Resources Inventory	TCWS	Texas Colonial Waterbird Survey
NSF	National Science Foundation	TDA	Texas Department of Agriculture
NSSP	National Shellfish Sanitation Program	TDH	Texas Department of Health
ONRW	Outstanding Natural Resource Water	TEA	Texas Education Agency
OPA	Oil Pollution Act	TED	Turtle Excluder Device
OSPRA	Texas Oil Spill Prevention and Response Act	TEST	The Estuarine Sampling Team
PAH	Polynuclear Aromatic Hydrocarbon	TM	Landsat Thematic Mapper
PAR	Photosynthetically Active Radiation	TMDL	Total Maximum Daily Load
PCB	Polychlorinated Biphenyl	TNRCC	Texas Natural Resource Conservation Commission
PH	Public Health Protection Action Plan	TNRIS	Texas Natural Resource Information System
PIO	Public Information Office	TOC	Total Organic Carbon
POTW	Publicly-Owned Treatment Works	TPWD	Texas Parks and Wildlife Department
PPE	Public Participation and Education Action Plan	TSC	Technical Support Committee
PS	Point Source	TSCA	Toxic Substances Control Act
RCB	Research Coordination Board	TSS	Total Suspended Solids
RCRA	Resource Conservation and Recovery Act	TWC	Texas Water Commission (Now TNRCC)
RRC	Texas Railroad Commission	TWDB	Texas Water Development Board
RRT	Regional Response Team	TWRI	Texas Water Research Institute
RSC	Research Action Plan	TXDOT	Texas Department of Transportation
SAL	State Archeological Landmarks	UH	University of Houston
SAMP	Special Area Management Plan	USCG	U.S. Coast Guard
SARA	Superfund Amendments and Reauthorization Act	USCGMSO	U.S. Coast Guard Marine Safety Office
SB “#”	(under Regulatory Issues) Senate Bill No.	USDA	U.S. Department of Agriculture
		USDOT	U.S. Department of Transportation
		USFWS	U.S. Fish and Wildlife Service
		USGS	U.S. Geological Survey

continued

UT	University of Texas
WAN	Wide Area Network
WEF	Water Environment Federation
WQS	Water Quality Standard
WSQ	Water and Sediment Quality Action Plan
WVA	Wetland Value Assessment

